# The Spark Gap

**FEBRUARY 1980**

Book VI Vol II

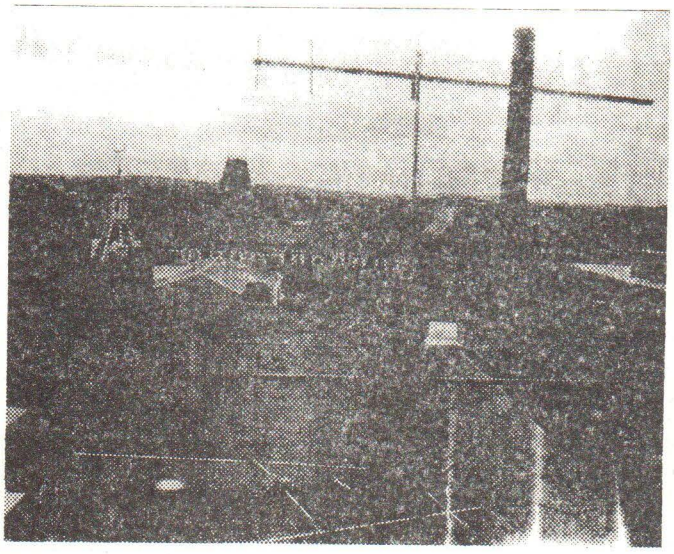
Official Journal of the Wellesley Amateur Radio Society


# HEADLINES

Need a couple of shocks concerning Amateur Radio? How about these three: "Volunteer Amateur exams are illegal". declared the FCC recently, meaning that Novice applicants will have to appear before the FCC to take exams. "FCC proposes expansion of CB channels", with new SSB only operations just below our 10 meter band. Finally, "75 meter broadcast stations in Canada could appear on the air as early as June 1981" according to a CBC official, running 250 kilowatts in "our" phone band. For more details on these and other happenings, see inside....

## Hearabouts....

This month, as you can see on this page, marks the return of something that has been missing from the pages of the Spark Gap for over a year now; pictures! Since Joe McGrath, WA1JIR, retired as our printer back in 1978, it has not been possible to run any otos in the Gap, due to the expense and time required to get them properly processed. Your editor, however, recently ran across a method that will enable pictures to be printed with little difficulty simply by the purchase of on inexpensive item, and the use of a Polaroid camera to take the photos. The results can be seen in the following pages. Presuming the results are satisfactory, photos will once again be a regular feature of the Spark Gap. Any comments on this or any other aspect of the Spark Gap, or any contributions of material for printing are as always appreciated! □



K1TK looking over the two meter quagis during the January VHF Sweepstakes at W1YK-Worcester. Complete story on page 4.

## ANNOUNCEMENT

This month's featured speaker will be Rick Beebe, K1PAD, ARRL Section Communications Manager for Eastern Massachusetts. Reserve the night of February 7th for his talk.

Also, the next executive committee meeting will be the night of February 6th, 7:30 pm at the club. As always, all members are welcome. □

**MEETINGS THIS MONTH:**

February 7, 1980 at 7:30 p.m.
February 21, 1980 at 7:30 p.m.
**Intermediate Bldg., Wellesley Hills, Mass.**

# TRAFFIC TALK

RTTY TRAFFIC HANDLING...NEW ENGLAND... WORKING GREAT

By Lou Everett, KH6JNQ/1

As WB1AIU and WA3NAZ pointed out in the summer and fall issues of QCD there is a much needed addition to the NTS. That is the art of traffic handling via RTTY. In the first quarter of 1979 the New England Teleprinter Net, NETN, was formed for handling traffic via RTTY. The purpose being that of handling traffic into, out of, and through the First Region.

The NETN came about as a result of a "Stray" in December 1978 QST by K1DFS requesting contact with stations interested in handling book traffic via RTTY. The main idea here was to handle the large volume of W1HHR "Welcome to ham radio" traffic being sent to new hams and hams that had upgraded in New England. As a result the NETN was formed and is now handling all kinds of traffic.

The net now has on record the handling of some 4000 messages during the year 1979; 3600 of which were W1HHR welcome/congratulations traffic. (Not bad considering the net was only meeting on Monday evenings).

However, as of the 17th of December 1979 the NETN has gone to three nights per week: Mondays, Wednesdays, and Fridays, on 3620 kHz, at 1900 EST. All stations are welcome to join.

NETN representatives from each state and stations that can perform liaison to any net or mode available for traffic handling are present.

State representatives are: Rod Lancaster WA1UHB and Chuck Motes K1DFS for Connecticut; Gordon Fox W1YNE for Rhode Island; Terry Gladowski W1TR for East Massachusetts; Norm David W1GKJ for Maine; Chuck Goldman and Alan Merrill KA1BJ and W1FYR for New Hampshire and Vermont; and yours truly KH6JNQ/1 has assumed duties as West Massachusetts rep until a representative can be found for West Massachusetts. KA1BJ and W1FYR are acting NH representatives assuming Vermont duties as well until a regular Vermont representative is found. K1DFS is the NETN net manager and yours truly is assistant net manager and training officer.

During the recent message fairs in Brockton and Natick, NETN activated 6 special sessions to accommodate any overload that may occur. These sessions met at 1900 EST every night that week (11th through the 16th of December; the 10th being a regular session) until all traffic was cleared. W1TR was assigned to meet with W1TKZ/1 (K1UR at the green keys) upon demand, to handle any through traffic coming from the Natick site, using a ten meter linkup on RTTY. Some 61 messages were handled in this fashion. W1TR then brought his traffic to 1RN and EAN using both CW and SSB where appropriate. Yours truly was assigned to pick up any 1st Region traffic from both fairs. Because of equipment problems galore (Murphy's Law), I was unable to help the Brockton Fair as much as I wanted to; but I was able to get back on to help W1TKZ/1 at the Natick site. We used a ten meter linkup and a fourty meter linkup to handle the traffic for 1RN via RTTY. This traffic was then brought to the New England Teleprinter Net and dispersed to the appropriate state representatives within the region. Some 59 messages were handled in this manner. Our thanks to K1UR for his excellent typing and perfect NTS format.

Traffic handlers with RTTY capabilities are welcome to bring their traffic to the NETN whenever they desire. Of course reporting in without traffic is Fine Business, too.

See you on the green keys.....

de Lou Everett KH6JNQ/1
OTS East Mass.
NETN Assistant Net Manager
NETN Training Officer

# OFFICIAL BULLETIN

Nr 1, dated January 2, 1980:

A reminder to all traffic handlers that the updated ARRL Numbered Radiograms are now in effect. The revised list appears on page 27 of December QST and supersedes all previous lists. Copies of the updated ARRL Numbered Radiogram texts are available from Headquarters. Send an SASE with a request for form CD 3. □

# The Spark Gap

Official Journal of the Wellesley Amateur Radio Society

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THE "SPARK GAP" IS A MONTHLY PUBLICATION OF THE WELLESLEY AMATEUR RADIO SOCIETY. ITS PRIMARY PURPOSE IS TO KEEP ITS MEMBERS ABREAST OF CURRENT HAPPENINGS, F.C.C. RULES & REGULATIONS CHANGES, AND TO LIST EQUIPMENT OFFERED FOR SALE OR TRADE BY MEMBERS. MEMBERS ARE ENCOURAGED TO CONTRIBUTE TO THE "SPARK GAP" AND MAY SENT THEIR ARTICLES (TYPEWRITTEN IF POSSIBLE) TO THE EDITOR-IN-CHIEF OR TO THE CLUB ADDRESS.

THE WELLESLEY AMATEUR RADIO SOCIETY IS A NON-PROFIT ORGANIZATION DEDICATED TO THE PROMOTION OF AMATEUR RADIO THROUGH INSTRUCTION, FELLOWSHIP, DEMONSTRATION, AND ENCOURAGEMENT OF PARTICIPATION. ANNUAL MEMBERSHIP IN THE SOCIETY IS $8. THE CLUB YEAR RUNS SEPTEMBER 1 TO AUGUST 31. AMATEUR NOVICE AND GENERAL CLASSES ARE CONDUCTED REGULARLY AT NO COST. TO ENROLL IN A CLASS, OR GAIN INFORMATION ABOUT THE SOCIETY IN GENERAL, WRITE:

THE WELLESLEY AMATEUR RADIO SOCIETY
324 WASHINGTON STREET
WELLESLEY HILLS, MASS. 02181


# Executive Minutes

Meeting of January 2, 1980:

The meeting was opened at 7:40 pm by President Bill Downing, WA1PQY.

The results of the message fair and the repeater tower proposal were discussed briefly.

It has been suggested that a remote site for the repeater might be located at Snow Hill in Dover. A letter has been sent to see if this is possible.

The auction was discussed with a tentative date of April 12 decided on.

The meeting was closed at 8:52 pm.□

# Minutes

Meeting of January 3, 1980:

The meeting was opened at 7:39 pm by President Bill Downing, WA1PQY.

The secretary's and treasurer's reports were given.

The president thanked everyone who participated in the message fair which was very successful with 823 messages originated.

It was announced that the club is looking for an instructor for a Novice class, since there were many requests for a class as a result of the message fair.

The first meeting with the Boston marathon officials will be in February.

It was announced that the auction date is planned for April 12.

It was announced that the club will participate in the January VHF Sweepstakes from the Worcester Polytechnic Institute club site (W1YK), with participation open to all club members.

The meeting was closed at 8:03 pm.□

# hr REPORT

New SSB-only CB channels just above the present CB band came a long step closed to reality at the Commission's December 19th meeting. The immediate result will be an NPRM proposing a 12 watt PEP SSB-only extension of the present CB service, but asking for comments on whether VXOs should be permitted, should the present 150-mile limit be eliminated, whether the expansion would cause more TVI, and whether operation on the new frequencies should require passing a special exam?

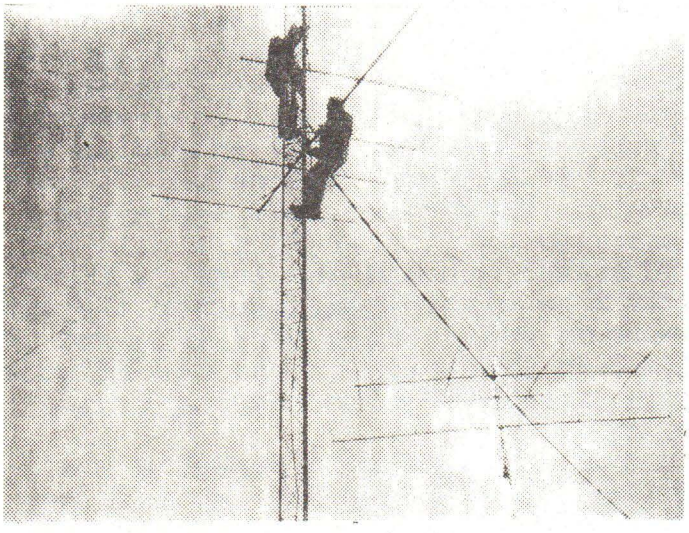
The Private Radio Bureau's staff proposal was for expansion into new 12 watt maximum SSB-only channels, VXO use permitted, no distance restrictions, but requiring a special license with an exam administered by an outside contractor. However, one FCC staff member recently returned from Geneva commented that the WARC had turned down proposals for a no-code HF Amateur license, but that what the Bureau had proposed "looks, feels and smells like Amateur Radio--and the rest of the world will know that's what it is, no matter what you call it!" Later in the discussion Chairman Ferris noted the principal difference between Amateurs and CBers is in what they talk about!

hr Report, December 21, 1979□

# VHF CONTEST

by Nels Anderson, K1UR

For the January VHF Sweepstakes, we tried something different from our other recent VHF contest efforts. This time we operated from a fixed station, W1YK, the Worcester Polytechnic Institute Wireless Association club station in Worcester. Though the altitude of about 800 feet there is not bad, it certainly doesn't compare to the over 3500 foot altitude of Mt. Equinox, Vermont, the site of our other recent expeditions. For winter operations, however, this site does offer a number of advantages, primarily a nice heated room with plenty of operating space (after the normal HF equipment is moved, anyway!) Though this is a fixed and operational station, there was still plenty of setting up to do

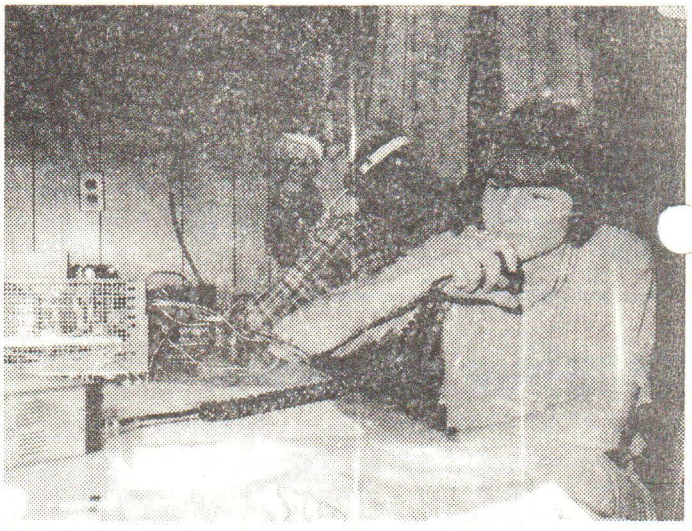


K1TK and WA1ZLQ raising the six meter antenna at W1YK.

as it contains little in the way of VHF equipment. K1TK and K1UR went out the night before the contest and began the setup of the four stations; one each for 6 meters, 2 meters, 220 MHz. and 432 MHz. W1YK is ideal for temporary setups like this as the station is located in a shack right on the roof where the towers are located, so it's just a metter of running cables out the door and up the towers to connect the antennas.

The equipment consisted of the following: a Yaesu FT-625RD and Heath SB-220 into a five element yagi at 140 feet above ground level for six meters; a Kenwood TS-700A and KLM 140 watt amplifier into two 8-element quagis or a Ringo at 80 feet for two meters; a Midland 13-509 and single 8-element quagi at 90 feet for 223.5 MHz. FM; and a modified Motorola T44 transmitter and Parks receive converter into a Kenwood TS-820S with a Cushcraft 16-element collinear at 150 feet for 432 MHz.

Conditions were not bad, though six meters did not really open up at all (it has been open for world-wide communications lately) which was a dissappointment. However, to show how much our operation has improved with our continued efforts, we exactly equaled the number of contacts we made last June from Mt. Equinox despite a much lower location. Some



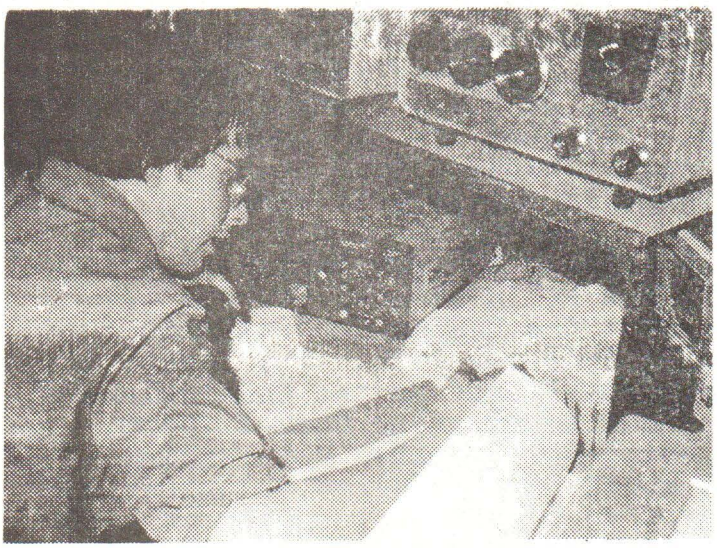
WA1PQY "downing" one at the two meter station while WA1YOJ runs them on 223.5.

interesting propagation was observed including a nice opening into New Jersey and Pennsylvania on two meters Sunday morning, and an aurora opening which gave us two Canadian sections and brought through Ohio and Michigan on two meters which we were not able to work through the pile ups, however.

Our final score was 352 contacts in 19 ARRL sections, for a respectable 21,634 points. By bands we made 177 contacts on 6, 154 on 2, 15 on 223.5 MHz. FM and 6 on 432 MHz. The 432 rig did not work quite as well as hoped,

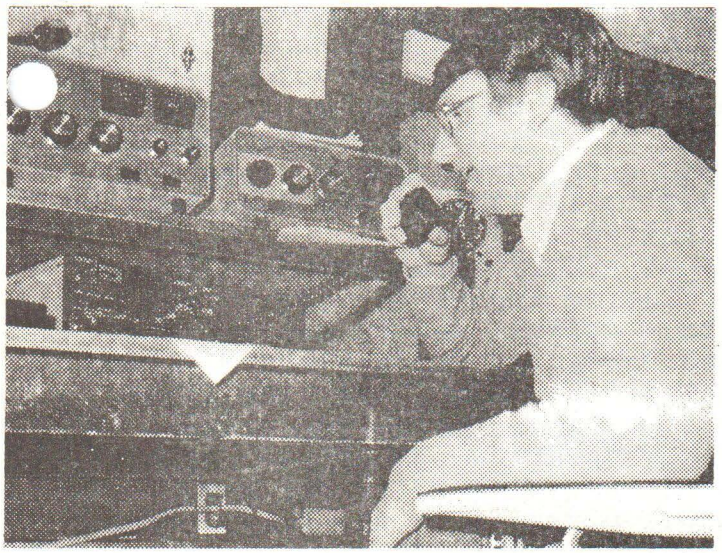
so there is still room for improvement on that band in the future and of course, there are still higher frequencies to explore....

A good time was had by all operators and all are looking forward to the next contest in June. Operating from W1YK were: David Curry, K1TK; Nels Anderson, K1UR; Bill Downing, WA1PQY; Dick Paret, WA1ZLQ; Scott Nacey, WA1YOJ; Glenn Brodie, N1ACN; and Jim Idelson, K1IK. □

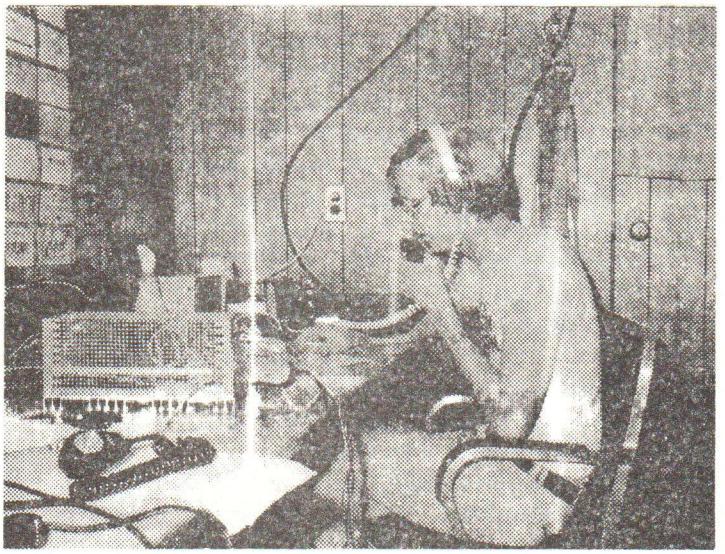


K1TK at the 6 meter station.

WA1ZLQ at the 2 meter station.



N1ACN at the 6 meter station.



K1UR at the 2 meter station.

Two key people are leaving FCC's Rules Division's Personal Radio Branch. Jim McNally is moving to the Broadcast Bureau, while Stephanie Spernak is joining Commissioner Washburn's staff. Jim, himself an Amateur, was a senior member of John Johnston's staff, while Stephanie has been spearheading the plain language rewrite of Part 97 of the Amateur Radio rules. With the loss of two such important people, it is likely that progress on ASCII implementation and other Amateur projects will be slowed.

hr Report, January 11, 1980

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"Emergency-type" vehicles in Massachusetts could have Amateur license plates under a bill filed by Senator Carol Amick. Letters of support should be sent to local legislators for the bill filed in the state legislature on December 5th.

hr Report, December 21, 1979

# "timeout!"

By Mike Adlerstein, K1FB

It's happened enough times now that I'm beginning to think it's not an isolated phenomenon. To describe it, I should have titled this article "The Frustrations of a Frustrated DX'er". Here's the scene; put yourself in it.

First, the cast of characters. There's the guy who is interested in DX. He's got 93 countries worked but seems to be stuck there. Hasn't heard a new one on in a long time and when he does, the rare one is working a list which was taken yesterday. Every night he spends a half hour twirling the knob on his VFO scouring the band for that elusive number 94. He has a good station but his QTH is in a hole and his antenna could be a lot higher that it is. Plus, the bands haven't been too good lately and propagation out of New England is the worst in the nation.

Next, there is the long winded slow talking W5 rag chewer from Louisiana with a five element monobander on 20 meters and a two kilowatt amplifier. It runs off a variac with a red line on it's dial plate that says "do not exceed this setting to stay within the legal power limit". This fellow has a QTH on the highest mountain south of the Arkansas River where the soil conductivity is so good, it adds effectively three more elements to his beam. The fellow has been on the DXCC Honor Role for the past 20 years.

Now add to the mix a rare DX station on 20 meters. He is in the clear Q5-S4, calling CQ. The DX'ers eyes light up like the tree on Christmas Eve. It's that elusive new one. Tweak the knobs, turn the antenna. The pulse quickens. What luck. No pile up an easy shot....What's this? He came back to the W5. The rag chew has begun. The rare one's call is repeated by the W5 loud and often (as a peacock struts its feathers). There will be no way to hide this one. The W5 is 40 over S9. On and on the QSO goes. Carriers appear on frequency. Everyone has noticed the long winded QSO. They're moving in for the kill. And to think--there are dozens of other W5's out there, not to mention the W4's!

Maybe W5 will sign off soon, after all the rare one's signal is starting to fade, at least here in New England: Q4-S3. No let up. Finally they mention 73: Q3-S2. Be rude, break in? Bad form. Wait....At last the QSO ends. Now the explosive, violent pile up.

There is always next time.... □

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"Volunteer Amateur Exams are illegal!", the FCC's General Council declared at the Commission's agenda meeting December 19th. The bombshell announcement came as the Commissioners discussed terminating Docket 20679, the Notice of Proposed Rule Making that would have required volunteer examiners to submit photocopies of their licenses when requesting an exam. The judgement appears to stem from recent Congressional concern that some government agencies were improperly expanding their staffs without approval of Congress, by use of volunteers and contracters. When the legal staff reviewed the volunteer program in connection with Docket 20679, they concluded it is illegal and thus must be terminated.

What effect termination will have on existing training programs and U.S. Amateur growth, not to mention the added burden on FCC's Field Offices, remains to be seen. For the first three years of the Novice program its exams were all Field Office administered; responsibility for Novice exams has rested with the Amateur Service since June 1954.

No date has yet been set for the termination.

hr Report, December 21, 1979

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"No permit" reciprocal operation by U.S. Amateurs in Canada went into effect January 21, so Amateurs can now operate as freely across the border as they do at home. Novices, for whom there is no Canadian equivalent, will apparently be excluded.

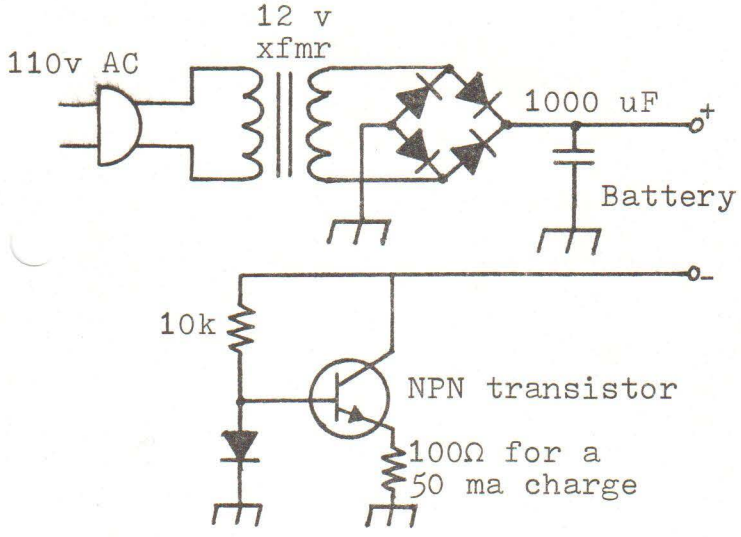
hr Report, January 18, 1980□

# Tek Tok

## Constant Current Charger

by David Curry, K1TK

This circuit is suitable for charging the battery packs of most handie-talkies. The transistor (2N2222 would be suitable) allows the battery to charge at the full rate for the whole charge period. The charge period must be determined for each individual battery pack; it should be about 1½ times the rating of the battery (for example for a 500 milliamp-hour battery pack, it would have to charge at 50 ma. for 15 hours).




# Harmonics About Town

WARS member Pete Bradley, N1ADX, has been serving on the ARRL's Advisory Committee on Biological Radiation Hazards. The committee met recently in San Antonio, Texas, to plan a response to the FCC's Notice of Inquiry about possible biological effects of radio frequency radiation. The committee was formed due to the League's concern that regulation could affect the Amateur service. Pete is a life sciences research assistant and doctoral candidate at Worcester Polytechnic Institute. □

# THE WAY IT GOES

by Julian Jablin, W9IWI

At the risk of sounding like a grumpy old man (I am), I would like to continue my complaints against the present state of the art.

The equipment these days is so damned neat. A "rig" isn't a rig any more; it's a confection of brushed aluminum and soft green (or blue or maroon) that was more likely than not owned by Raymond Lowey. Open the box--if you know how--and there is a geometrically precise arrangement of smaller boxes on a gleaming chassis, or a PC board with capacitors and resistors marching up and down in exact rows on top.

Thank God it wasn't always like that. The first big DX transmitter I ever saw belonged to Buck Ginsberg (honest) who cautioned me as we went down into the basement, "Don't touch anything." I saw why. The power supply was spread out, loose, on a board, nothing was nailed down. A huge transformer sat, lugs up, with wires spider webbing around to the 866 tubes. I put my hands in my pockets.

My friend, Walt, W2XPG, is an engineer for a very classy electronics firm where he trouble shoots sophisticated hush-hush gear. In the shack, however, we used to call him "clip-lead Walt" because that's how his equipment was wired together. Walt used to explain that his rig was still in the developmental stages, and this was the most practical way to wire it. Eventually he gave up explaining--obviously he liked it that way.

My own first efforts obviously took the same direction, guided by the examples of more experienced ham friends. I meant well, of course. My big failing was in the matter of drilling holes. Center punch or not, they never came out exactly where they were needed. As a result, I'm great at making slots.

Ray Mills, chief Radio Officer of New York City Civil Defense, once told me not to worry. A great converter of WWII surplus, Ray would start out with a very professional-looking SCR something-or-other. However, the equipment was never just to his liking, necessitating a few holes drilled to mount an

outboard component or sub-assembly. The need for that particular item having passed, it would be taken off and go into the junk box, but the holes remained. His gear had plenty of ventilation.

So now we're in the era of "low profile", "Kenwood blue", and indirect dial lighting. I suppose that all the cosmetic surgery makes the stuff work better--at least it helps sell it. □

## ELECTRONIC EXCHANGE

FOR SALE: Collins KWM-2. Receiver works O.K., transmitter needs work. Asking $600. Contact Dick Paret, at 762-5074, or write Wellesley A.R.S., 324 Washington Street, Wellesley Hills Massachusetts 02181. □

## "New Tickets"

Congratulations to John O'Brien, KA1BDE on his recent upgrading to General Class. Also Bill Hanlon, N1ADY, now has a new ham in his family, with his daughter now sporting KA1EAQ. FB!□

## hr REPORT

75 Meter broadcast stations planned by the Canadian Broadcasting Corporation could well appear on the air as early as June, 1981, according to a senior CBC official. Fortunately, only one or possible two are projected for the Sackville, New Brunswick, installation, where curtain antennas will be directed northwest into the Canadian arctic. As total transmitter bandwidth is to be limited to eight kHz., relatively little of the top end of 75 will actually be occupied.

250 kilowatt transmitters are to be used in CBC's arctic service, however, so even with main antenna lobes pointed northward some strong lobes should be heard in the U.S. New England and the East Coast will be especially susceptable. With only one (or two) channels in use, disturbance of the U.S. Amateur operations is not expected to be severe.

hr Report, January 11, 1980

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"Plain language" Amateur rules are now moving toward reality, following the Commission's adoption January 16 of a Notice of Proposed Rule Making for plain language radio control rules. Staff losses from John Johnston's rules group will unquestionably slow the effort, however.

ASCII implementation may not be too far off after all, however. New rules encompassing ASCII have been drafted and could go to the Commissioners for approval as early as the end of January of the middle of February.

hr Report, January 18, 1980

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Amateur communications for the winter Olympics will be provided by the Winter Olympics Radio Amateur Network, using Ten-Tec Model 546 OMNI-Series B transceivers. WORAN, with 65 full-time and 125 part time operators, will handle emergency and personal messages for the games' participants, as well as communications for the "torch run" from Greece. Ten-Tec is loaning the transceivers, housed in compact operating consoles which include RTTY and VHF equipment, for use during the games.

hr Report, January 18, 1980□